FILE COPY FOREST INSECT LABORATORY, UNIVERSITY OF CALIFORNIA, BERKELEY, CALIFORNIA.

325-Se
630.5C

UNITED STATES DEPARTMENT OF AGRICULTURE

BUREAU OF ENTOMOLOGY

FOREST INSECT INVESTIGATIONS

Copies to:

Files - 1
FCC - 1
J.E.P. - 1
Sequoia - 2
R.O. - 2
Route Copy - 1

# REPORT ON FOREST INSECT CONDITIONS ON CAMP NELSON AND WISHON AREAS, SEQUOIA NATIONAL FOREST - JUNE 1936

by
J. E. Patterson
Berkeley, California
July 30, 1936

U. S. GOVERNMENT PRINTING OFFICE: 1936 J 70133

Forest Insect Laboratory
Berkeley - California
July 30, 1936

# REPORT ON FOREST INSECT CONDITIONS ON CAMP NELSON AND WISHON AREAS, SEQUOIA NATIONAL FOREST - JUNE 1936

Approved by:

J. M. Miller

Senior Entomologist, in Charge

Submitted by:

J. E. Patterson

Assistant Entomologist

# REPORT ON FOREST INSECT CONDITIONS ON CAMP NELSON AND WISHON AREAS, SEQUOIA NATIONAL FOREST - JUNE 1936

Reports of persistent insect activity in the Camp Nelson area of the Sequoia National Forest have indicated a serious condition in this important recreational region which warranted attention. Accordingly, plans were made to include this area in the survey of the southwestern National Forests.

The Camp Nelson, and also the adjoining Wishon area, were examined in company with District Ranger Stevenson on June 17 and 18.

Area "A": Camp Nelson: Forest insects have been active in this area for a period of years, annually taking a high toll from the mature stands on both sides of the south branch of the middle fork of the Tule River. Reports prior to 1934 gave epidemic status to earlier infestations. Surveys made in the summer of 1933 showed that the losses were sufficiently high to warrant control operations, which were later carried out by CCC labor in the late summer and early fall. The past infestations, as well as the existing infestation, are confined to an area of about 10,000 acres. The control work in the summer and fall of 1933 succeeded in covering about 5,000 acres on which 126 summer brood trees were treated, or about 50% of the total loss of 1933 in the control zone. The total insect loss on the entire area for that year was estimated at 500 trees. No records are available for the loss in 1934, though the number of black snags now visible indicates it was somewhat higher than the 1935 loss, which is estimated to be about 400 trees. On the basis of these data it is evident that the recent trend has been toward a sustained high annual infestation with corresponding uniform losses. These losses have averaged from 40 to 50 trees per infested section; disturbingly high for recreational areas of this type where individual tree values are high.

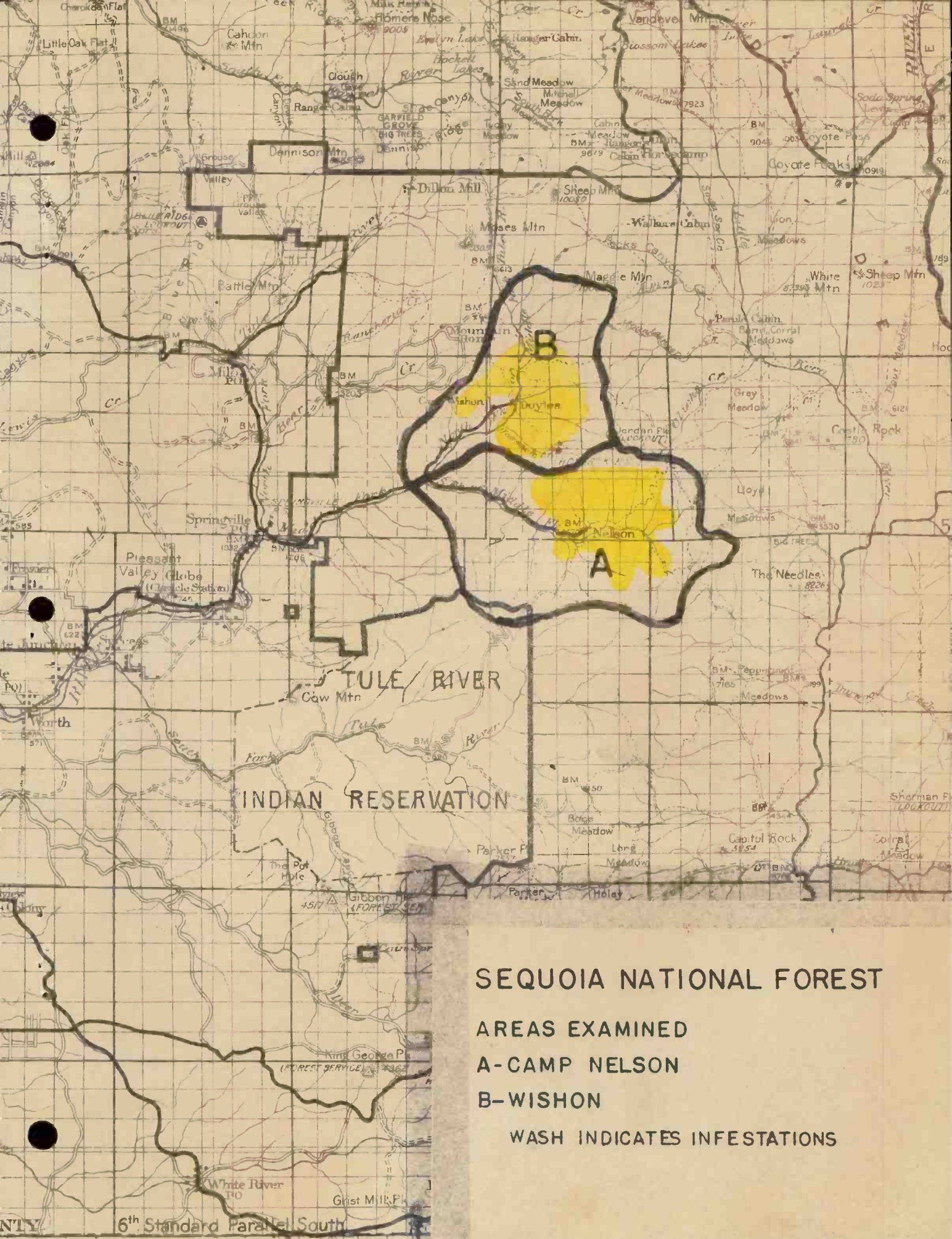
The recent examination was made too early to get an estimate of the early seasonal loss of 1936 since only a few of these trees had faded. The 1935 loss, however, was fully evident and since all parts of the area are visible by utilizing several view points the count of that year's loss is considered accurate. The trees killed in 1935 occur in groups throughout the basin but show a greater concentration on the higher slopes north and northeast of Nelson Flat in the western portion. The largest single group contained 20 large ponderosa pine trees and is located near a group of about the same number of trees that was treated in the summer control work of 1933. Infestations during the past four years have maintained this group character and have not moved far from the site of the earliest groups. Infested trees near the 1935 groups indicate that the current infestation retains this same characteristic. Examinations of infested trees and recently killed trees show that the ponderosa pine is being killed by the western pine beetle and the mountain pine beetle. Engraver beetles are also present. The sugar pine is infested with the mountain pine beetle. In the higher elevations - ridges north and east of the main basin - the ponderosa pine is largely replaced by Jeffrey pine which is not heavily attacked, but a few trees were found that had been killed by Ips emarginatus.

Area "B": Wishon: This adjoining area presents the same physical features found on the Camp Nelson area. Insect infestations are very similar. It is rapidly becoming an attractive recreational area and should have the same management. Lack of data precludes a reliable estimate of insect losses prior to 1935. However, the loss for that year was highly visible in June 1936, and is estimated to be 400 trees on the 4,500 acre infested area. This infestation is largely confined to the west slopes east of Doyles and on the high ridge north of this place. Ranger Stevenson treated about 70 trees, both ponderosa and sugar pine infested with winter broods, in April with ERA labor assigned from other projects. This work was confined to the lower region of the area and was aimed to protect the main recreational stands. The effects of this control work on the 1936 infestation was not evident at the time of the examination. No infested trees that had been missed could be found in the control area, and a thoroughly efficient job of treating had been done. However, it was impractical to include the northern half of the area in this work where a number of trees were left untreated.

A disturbing feature of any plan of insect control for these two areas is the amount of infestation in the scattered stands both north and south of them. Distent observation indicates these infestations are of equal intensity considering the scattered character of these outlying forests. Much of this is in steep country with trees occurring on slopes where they are quite difficult to reach. The existence of these adjacent infestations forces the conclusion that these recreational areas lack sufficient protective isolation, as one cannot see that a thorough cleaning of the used areas by control work will assure subsequent freedom from re-infestation. To what extent these outside infestations may contribute to an increase in beetle population on the recreational areas is only conjectural. However, beetles have invaded other areas following control work, and this is a hazard that should be considered.

Due to the extremely rough and inaccessible nature of the outlying areas and also because the infested trees are widely scattered it is perhaps impracticable to attempt control of these infestations. The feasible course would appear to be a periodic cleaning of the recreational areas whenever the infestations approach damaging proportions. The control work carried out in April of this year on a part of the Wishon area by Ranger Stevenson was of this character. Such a course seems to be the best plan to follow in future management. It may, and perhaps will, require successive small control projects but these measures appear justified as a means of holding the loss of valuable trees to a minimum in these intensively used recreational areas. The aesthetic value of these stands is greatly impaired by the presence of beetle killed trees which later become a real hazard to life and property when they come down from natural causes. Control work should serve a threefold purpose: In preventing the loss of valuable trees, preserving the intrinsic value of the stands for recreational purposes, and preventing the accumulation of dangerous snags.

If this plan is to be followed another examination should be made in October 1936 for the purpose of deciding upon the advisability and plans for a control program during the following winter and spring.




# SEQUOIA NATIONAL FOREST

AREAS EXAMINED

A-CAMP NELSON

B-WISHON

WASH INDICATES INFESTATIONS